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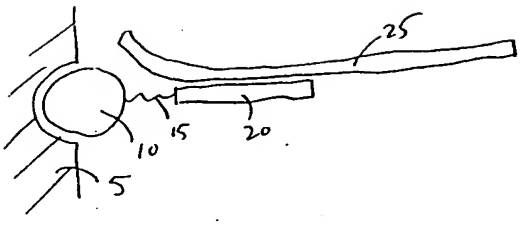

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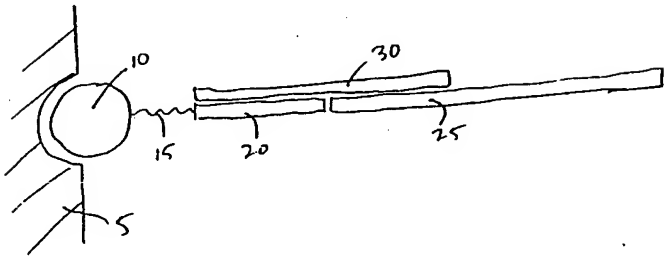

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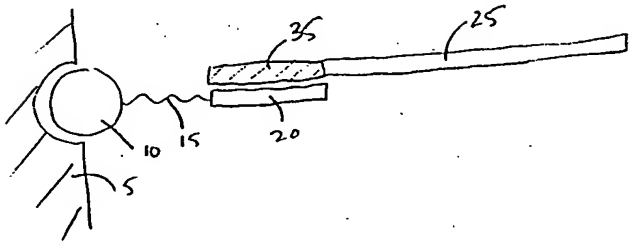


C

Fig 1

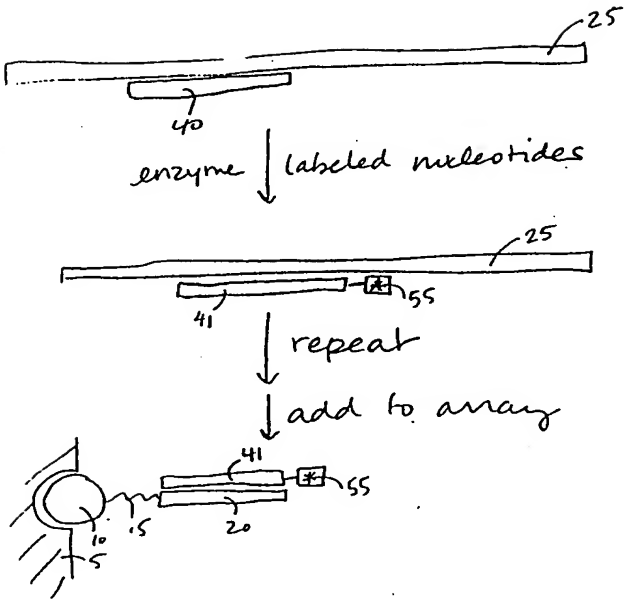


Fig 2A

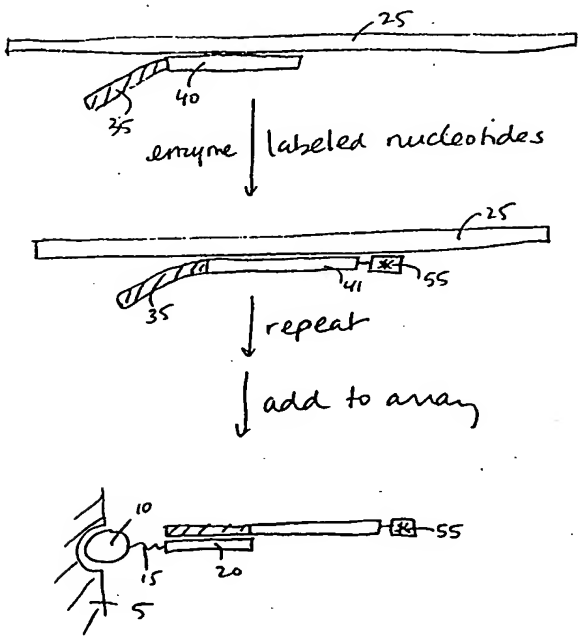


Fig 2B

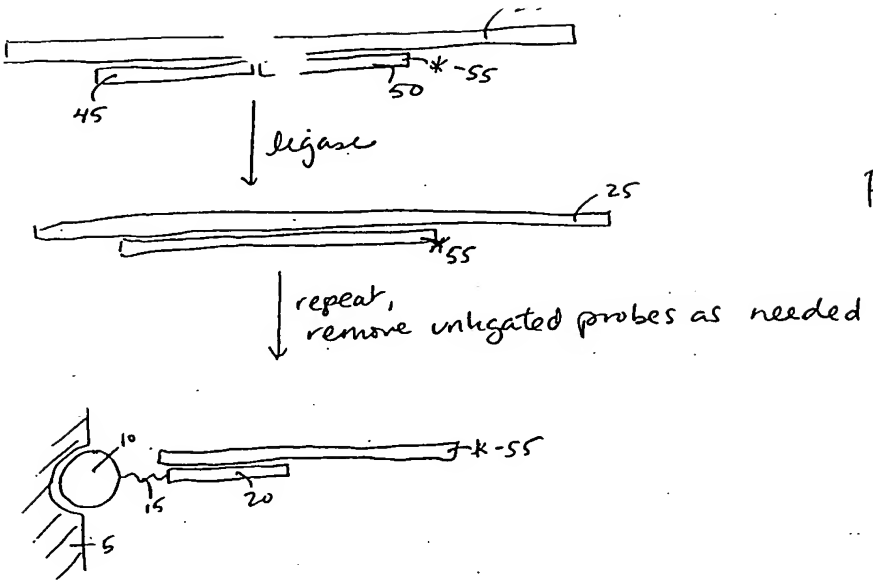


Fig 3A

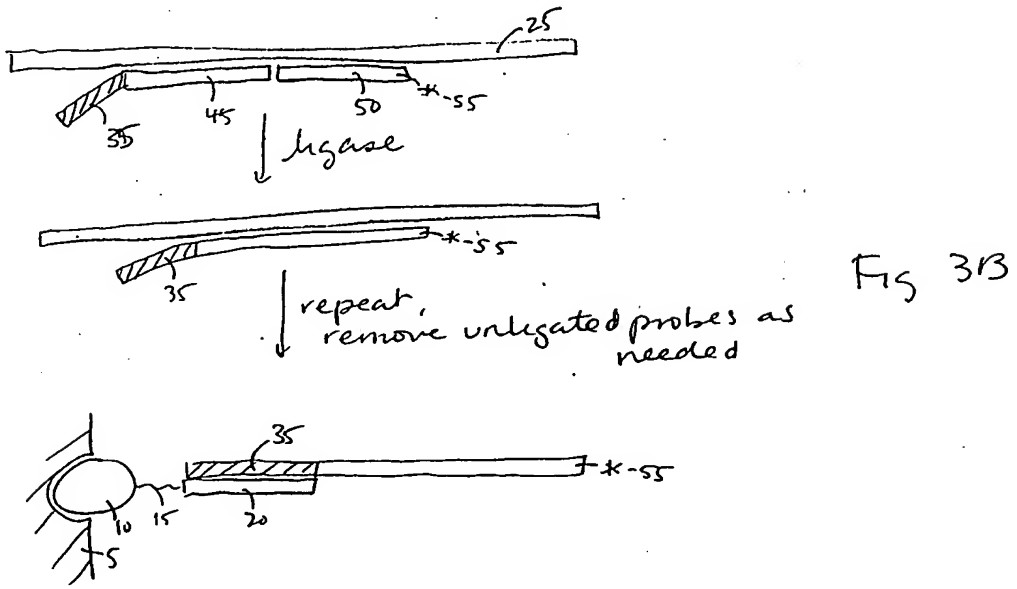


Fig 3B

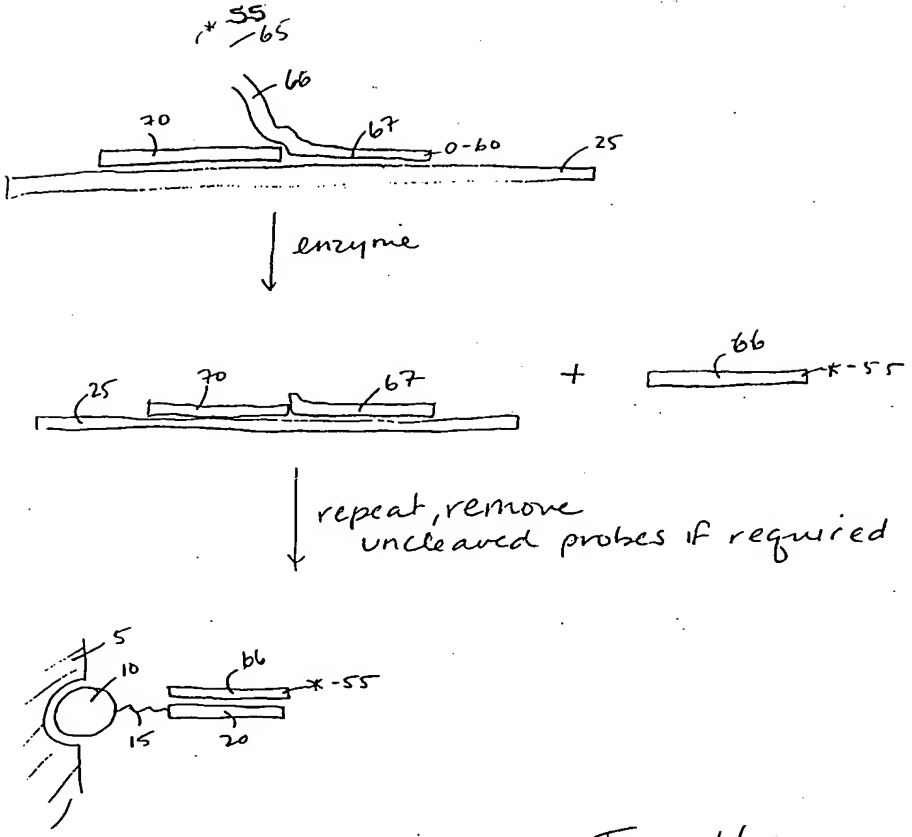
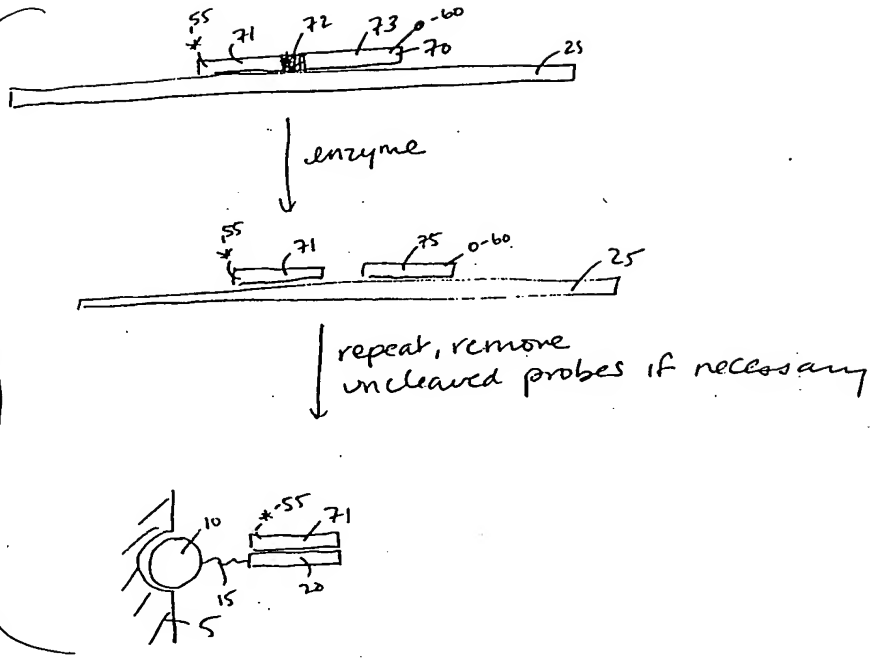


Fig 4

Fig 5A



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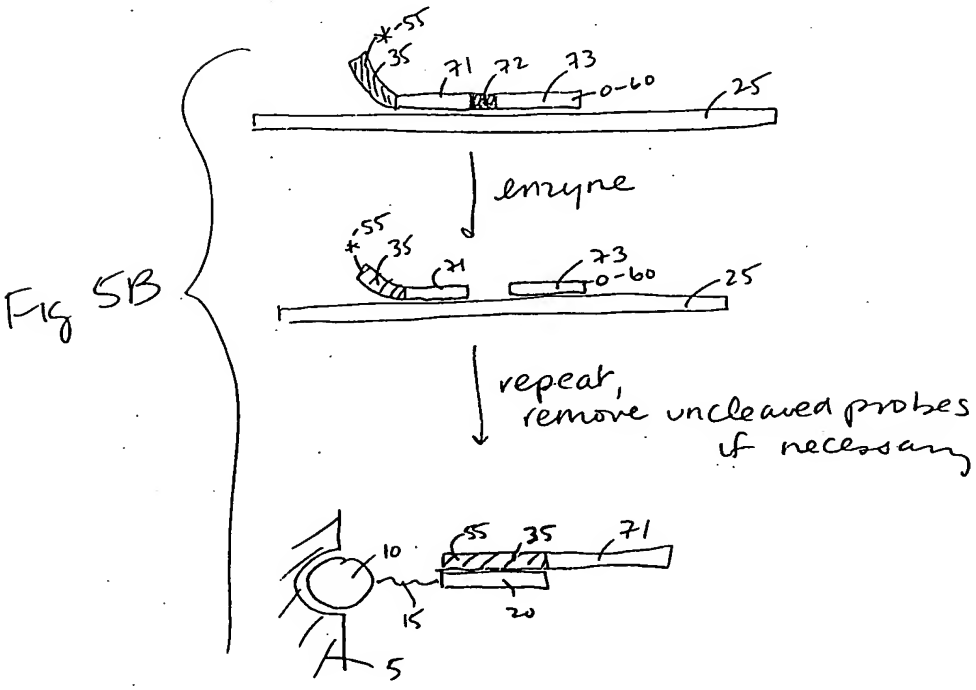

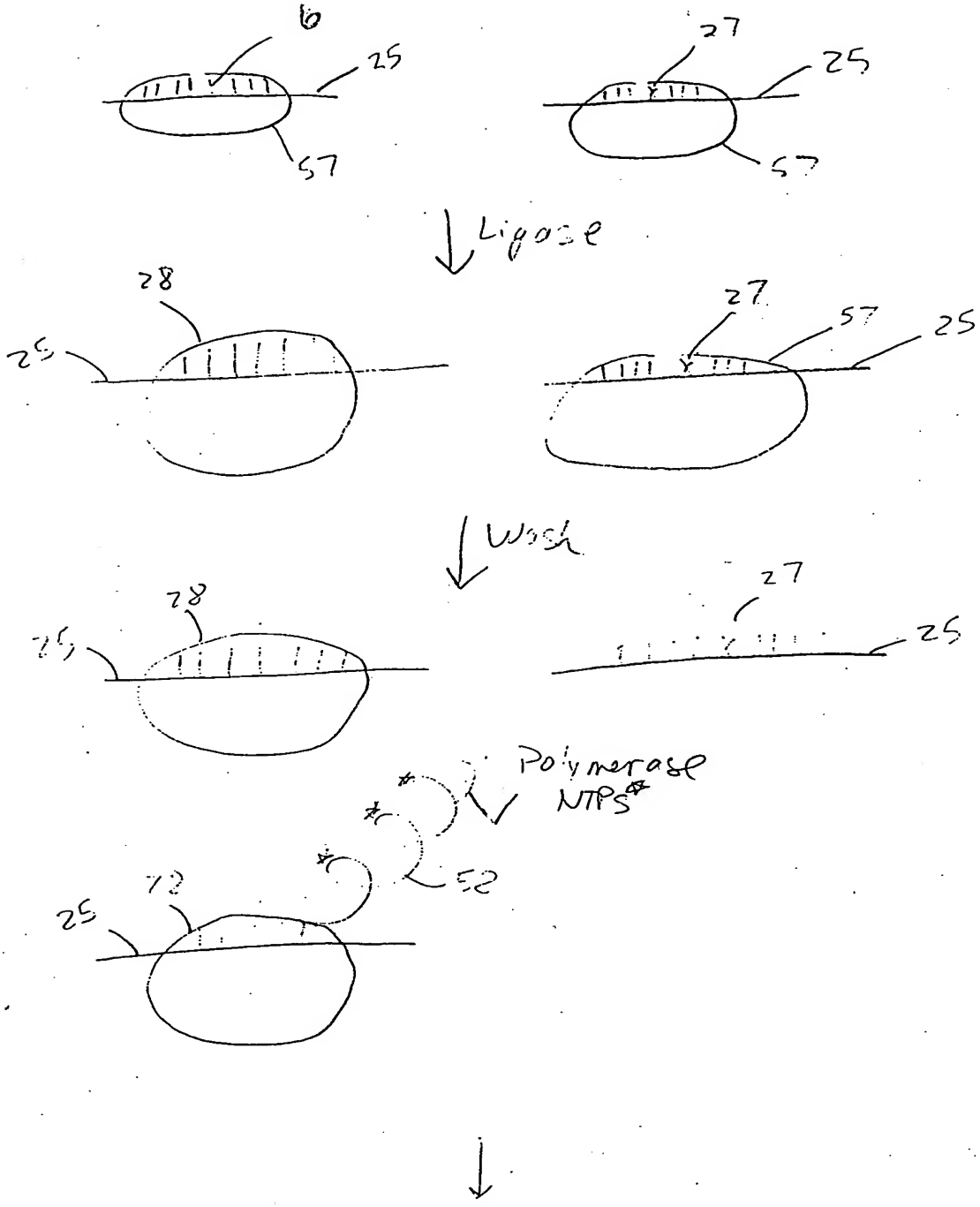

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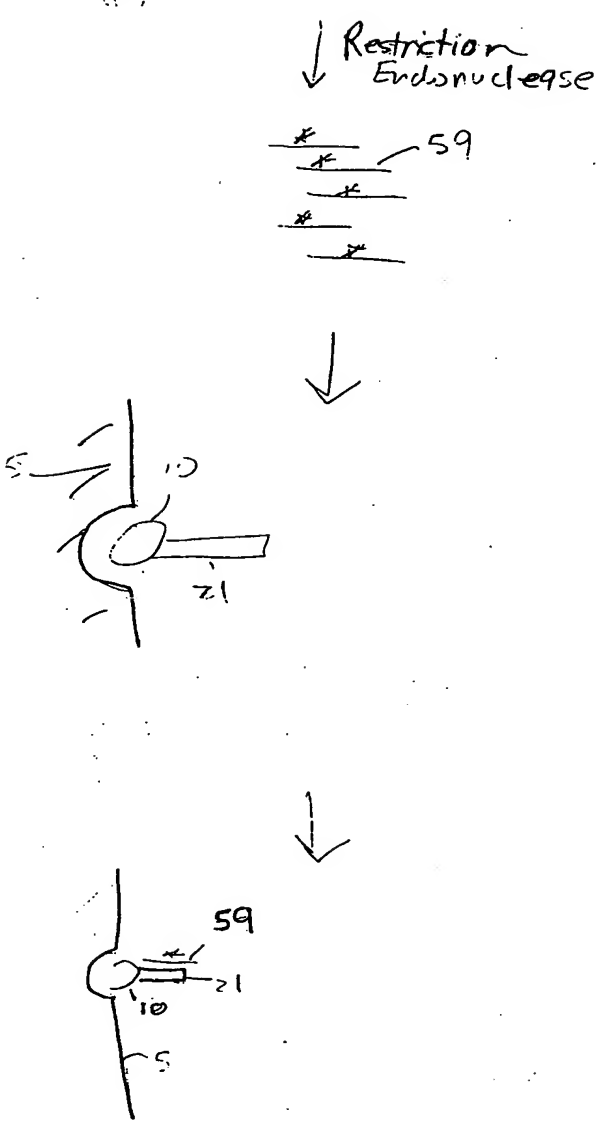

FIGURE 6
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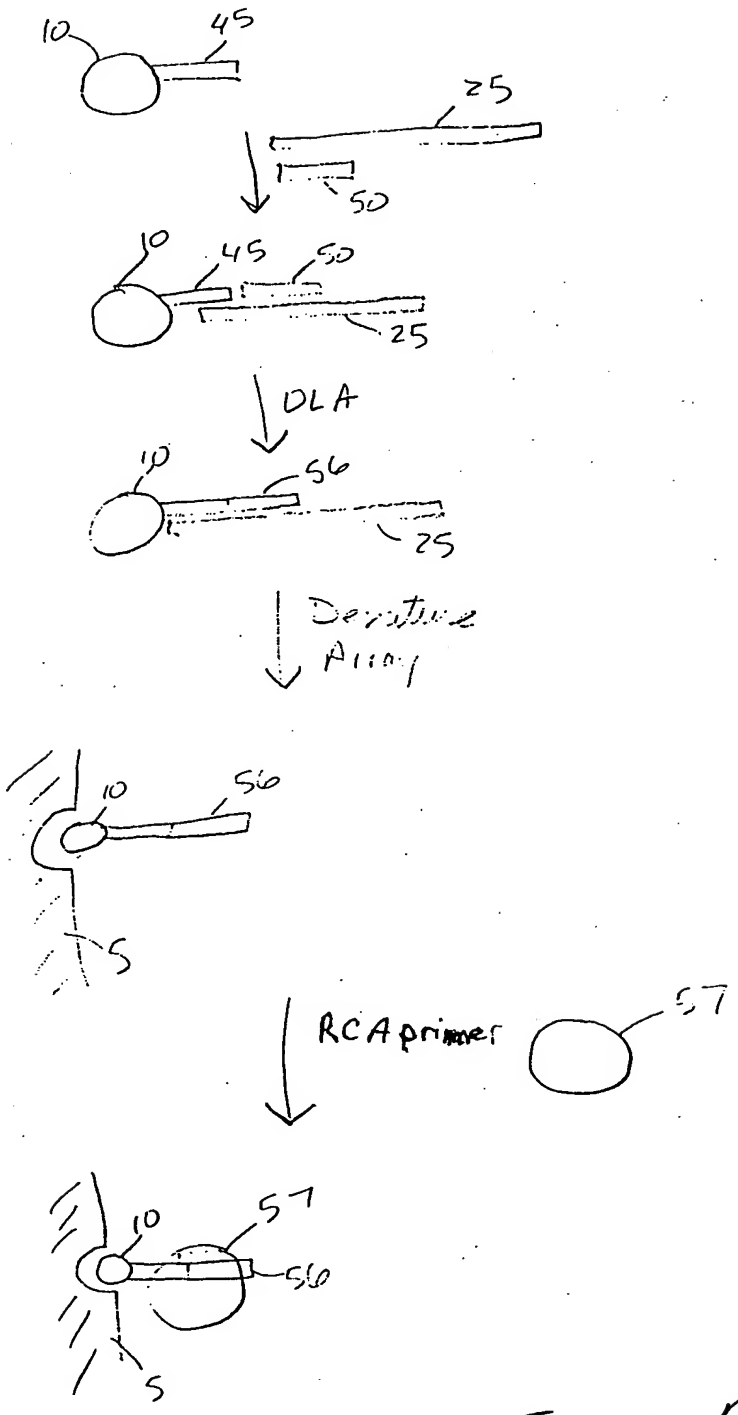

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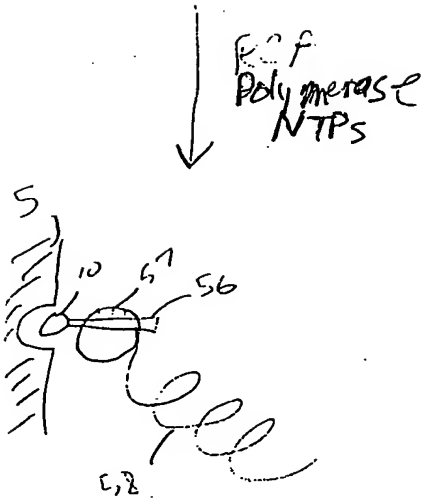

FIGURE 7
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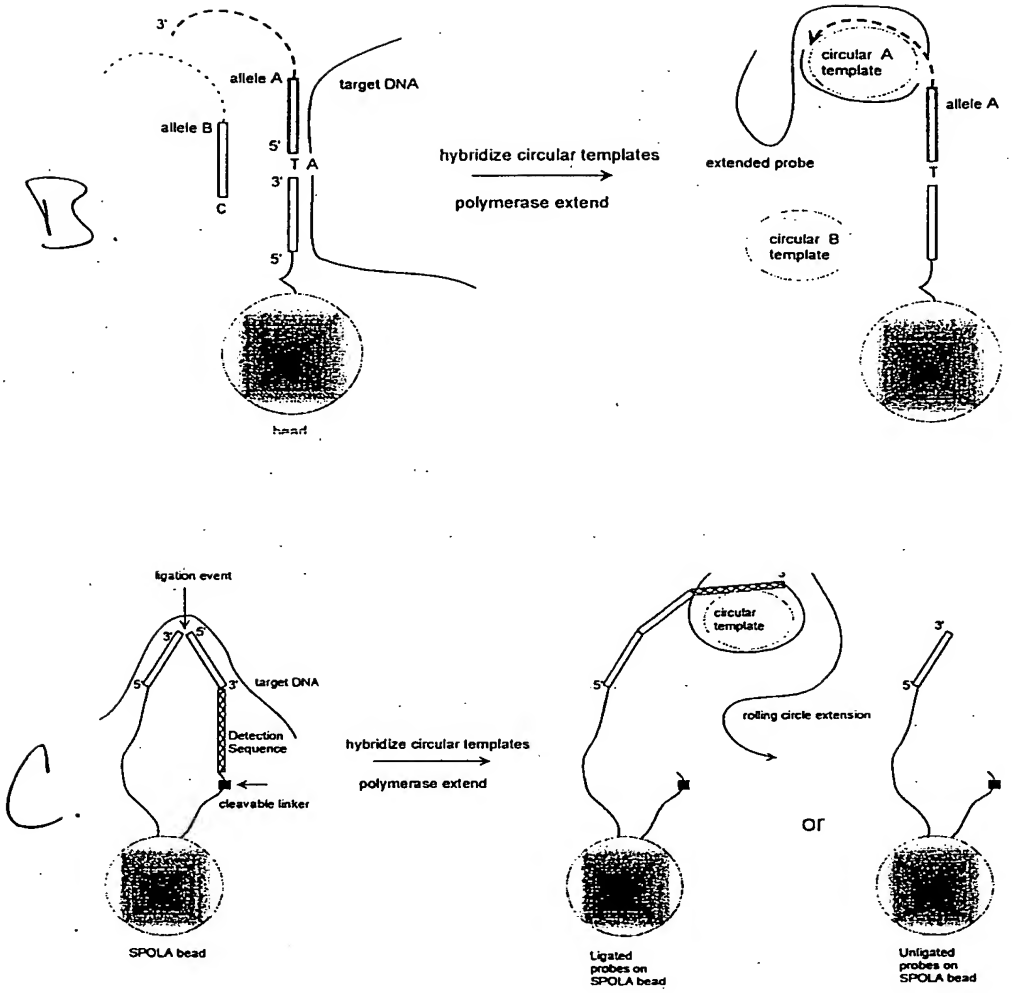

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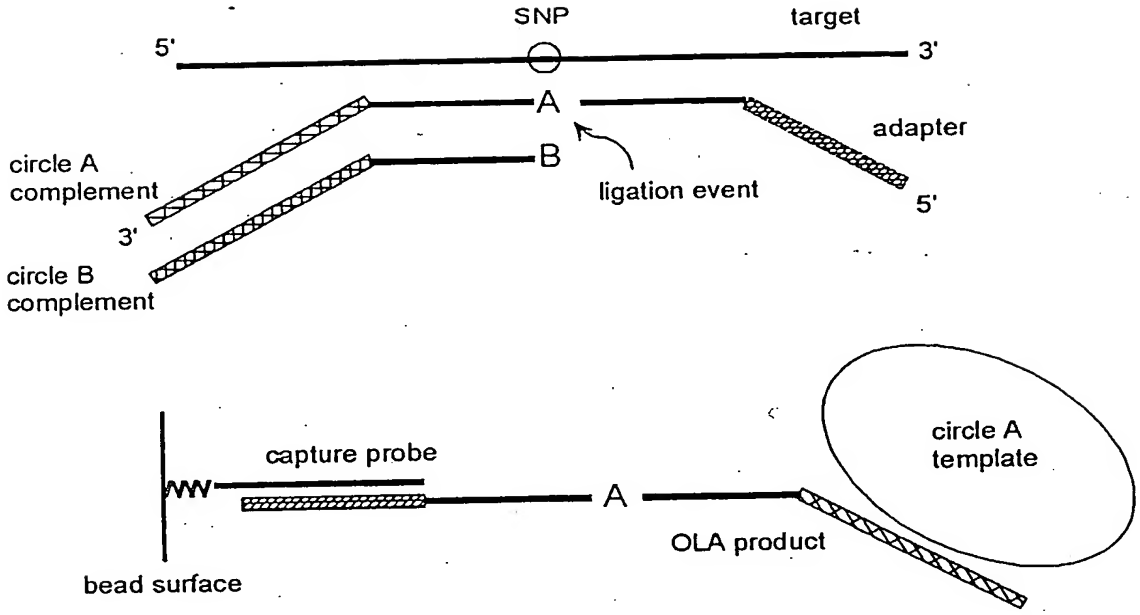

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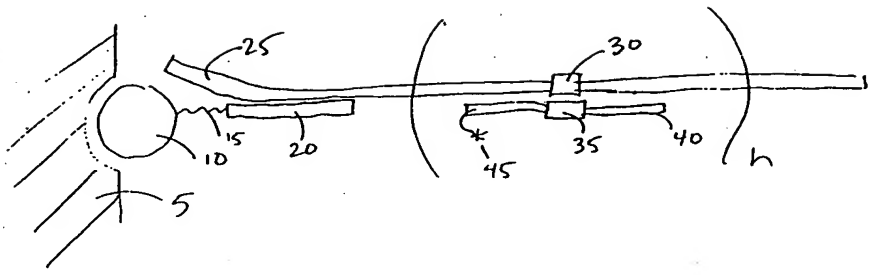
Figure 7 continued



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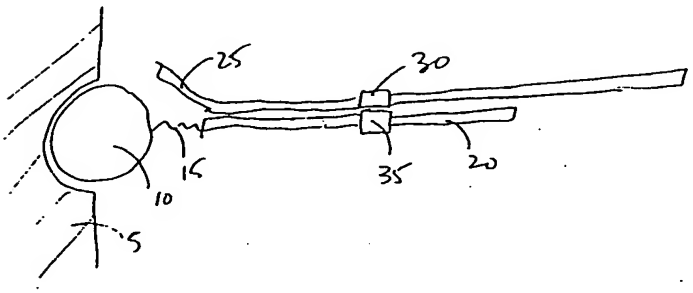

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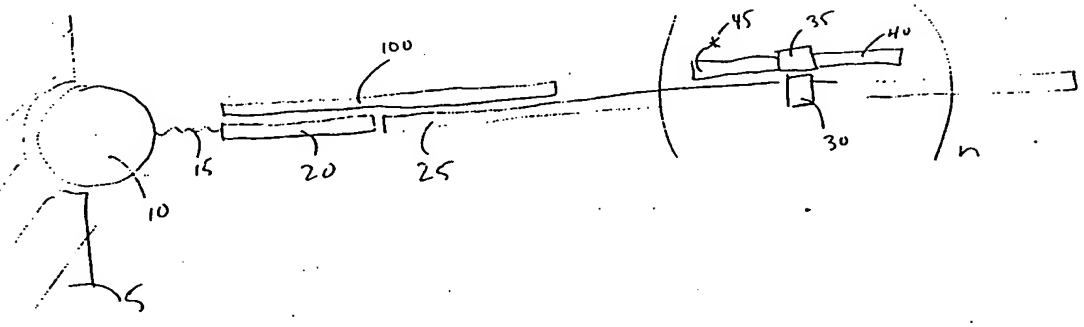
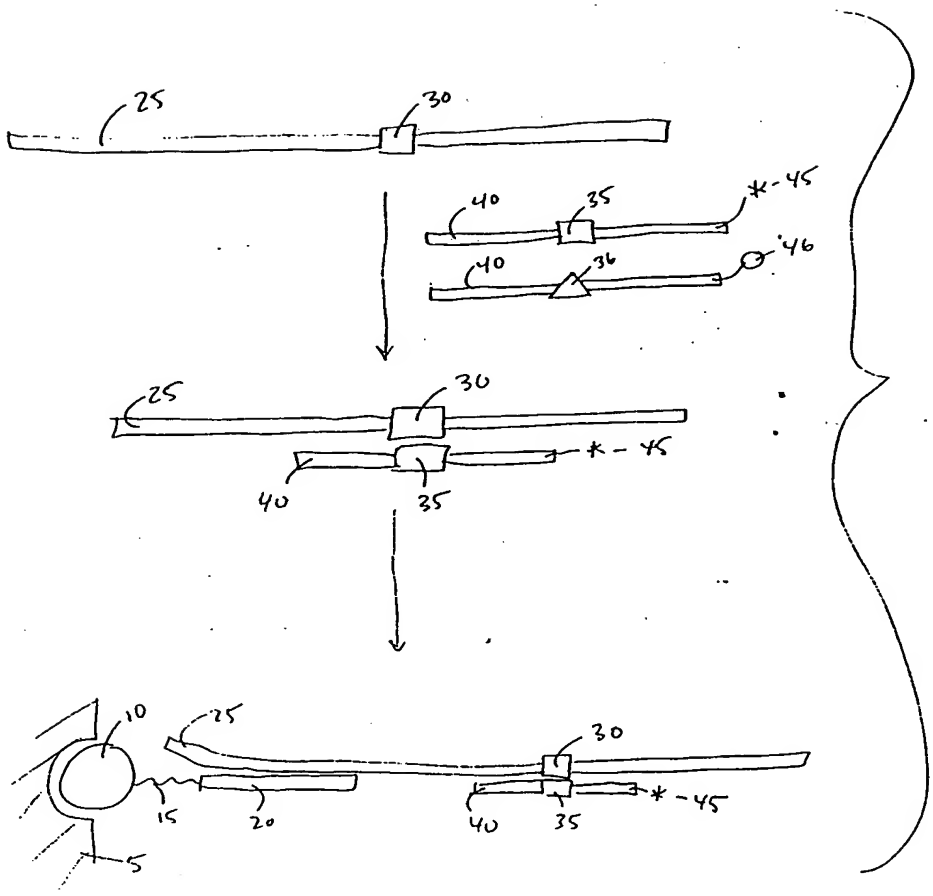


C

FIGURE 8



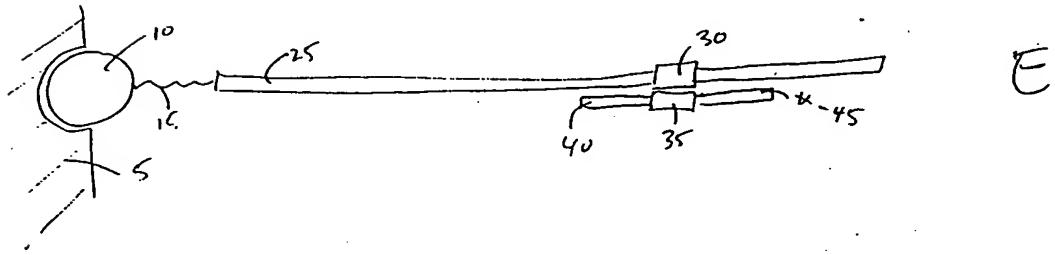


FIGURE 8
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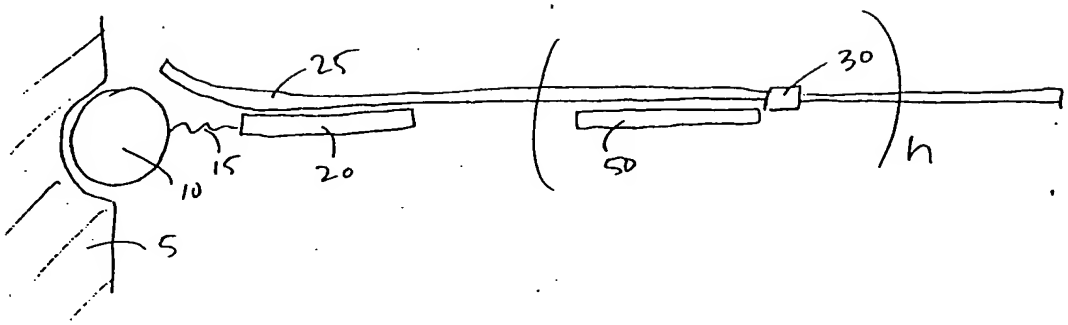

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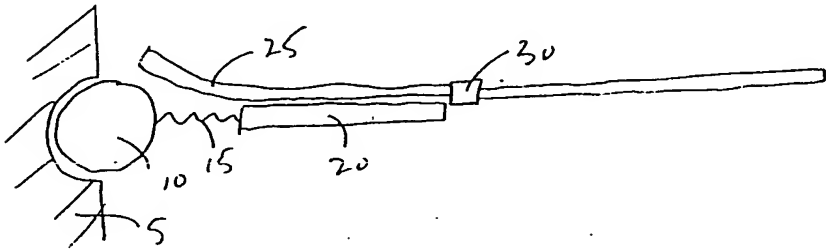

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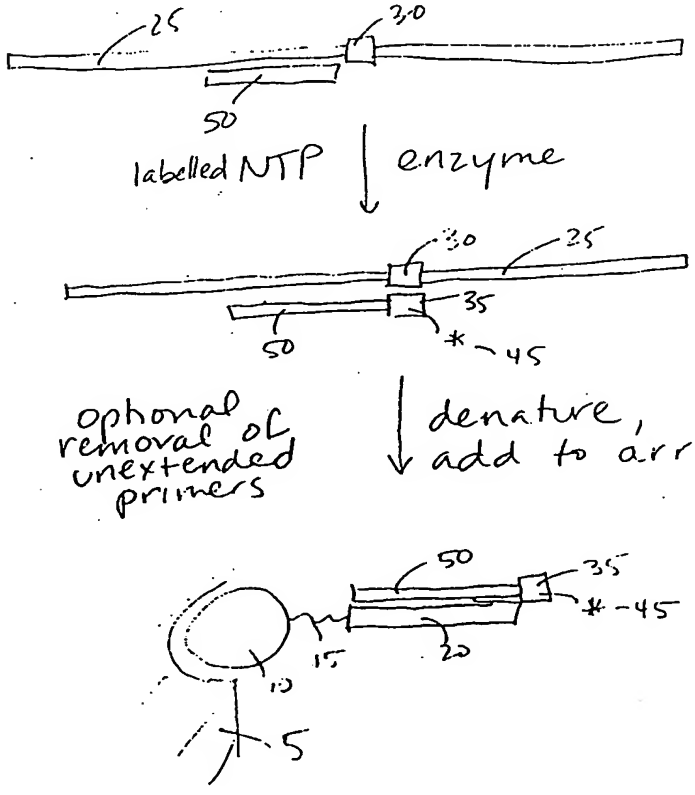

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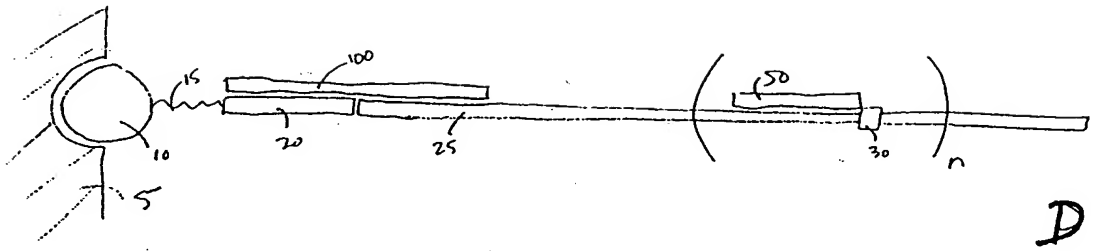
FIGURE 9



D

FIGURE 9
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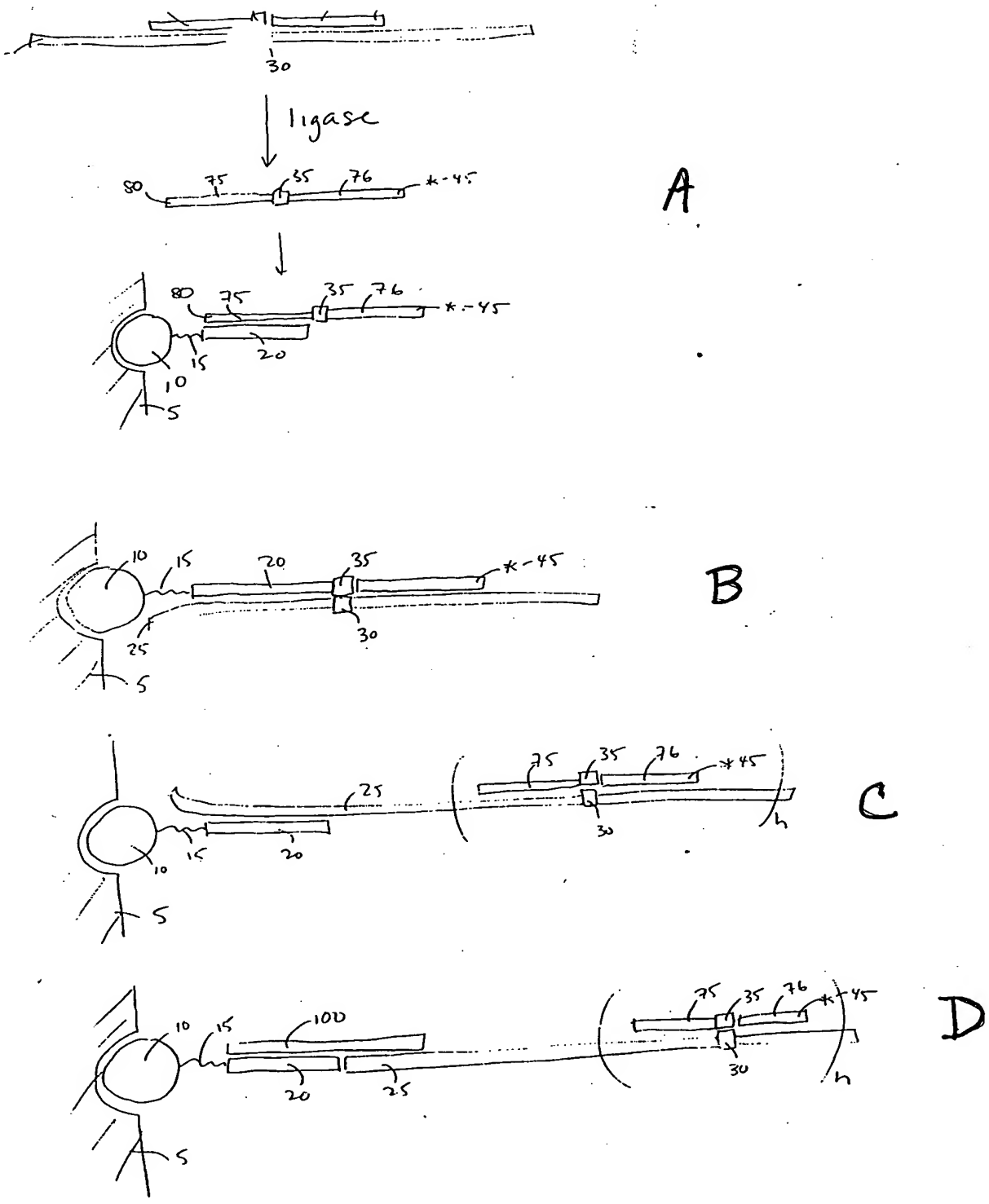
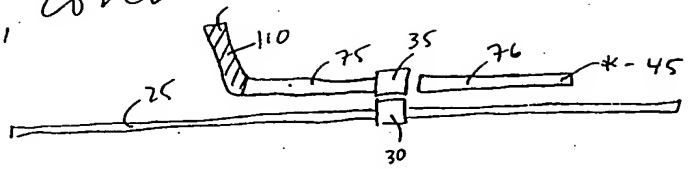
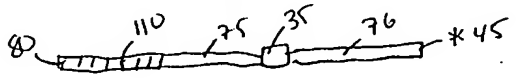


FIGURE 10.

cont



ligate



E

to array

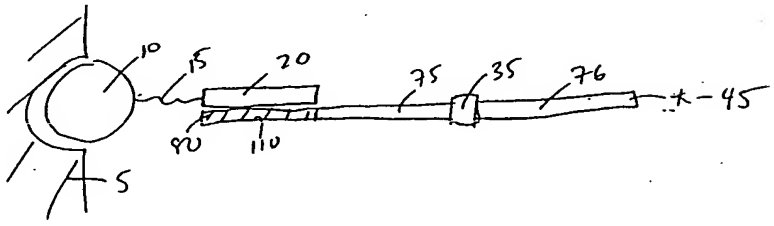


FIGURE 10
(continued)

SPOLA Assay

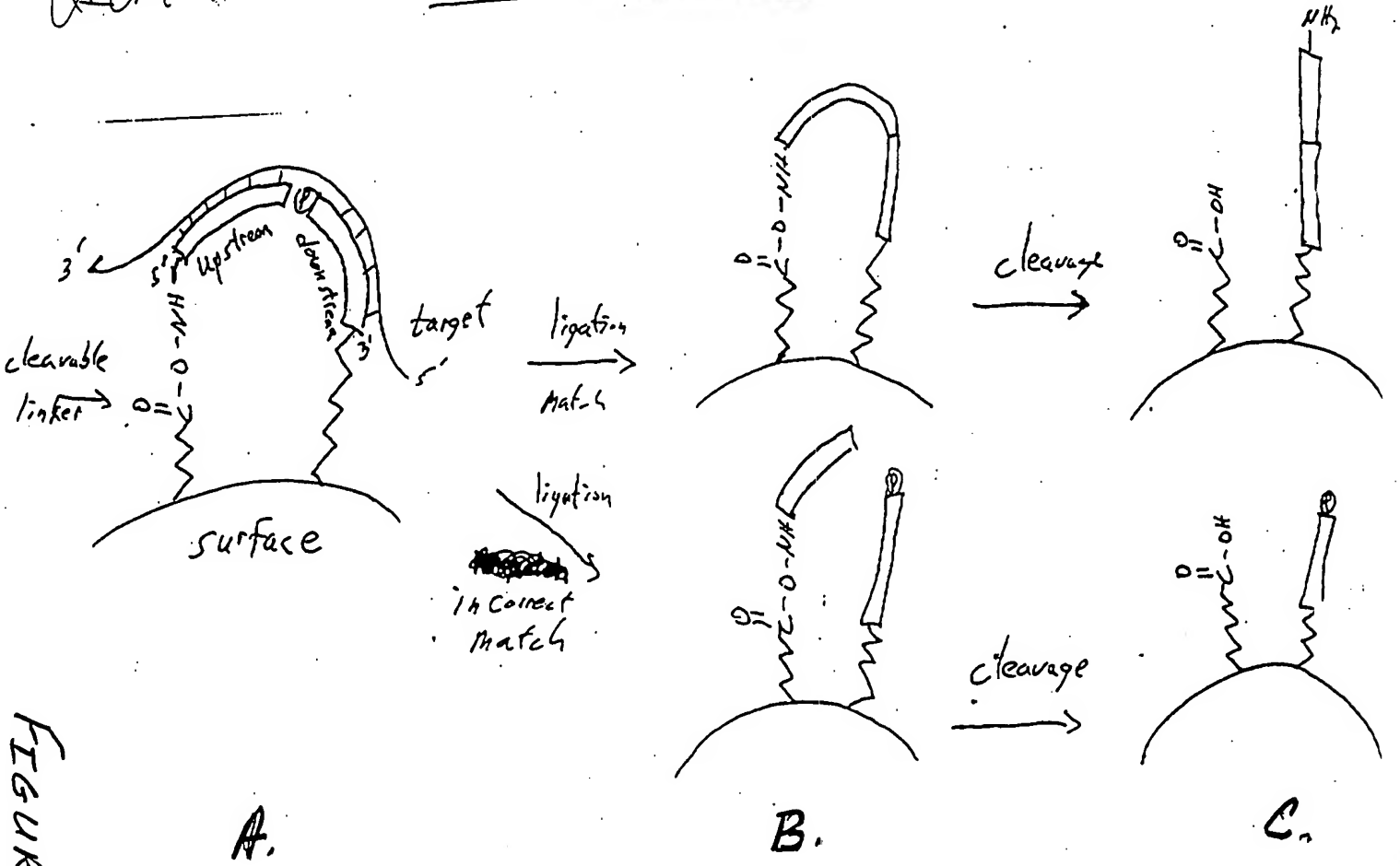


FIGURE 11

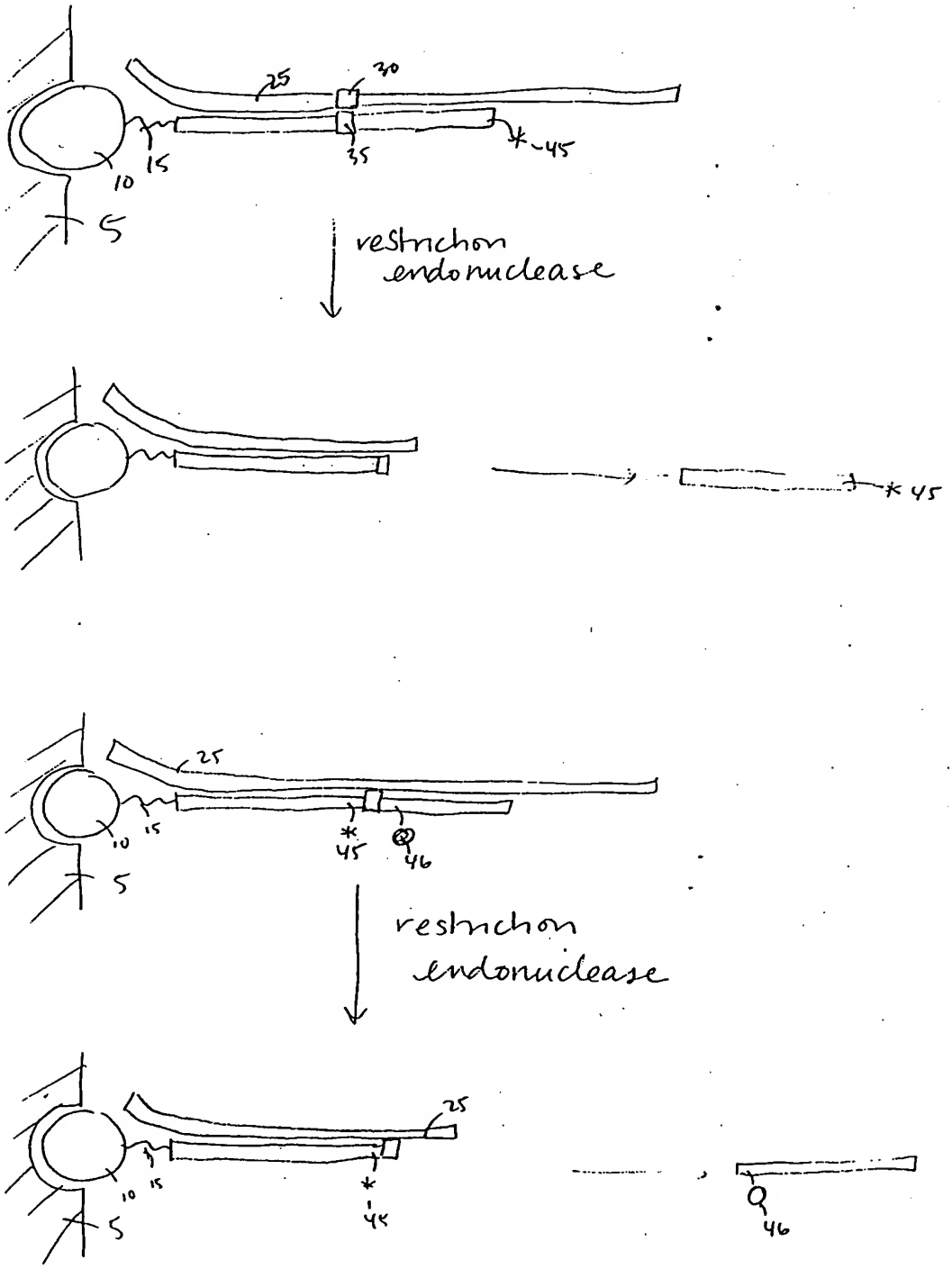
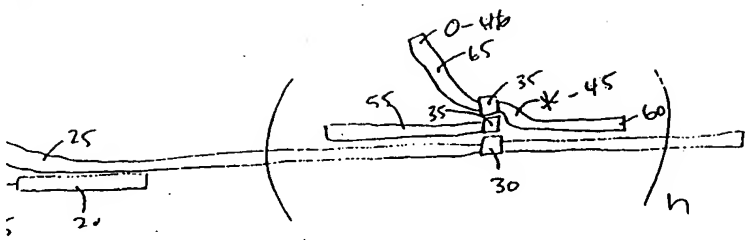


FIGURE 12



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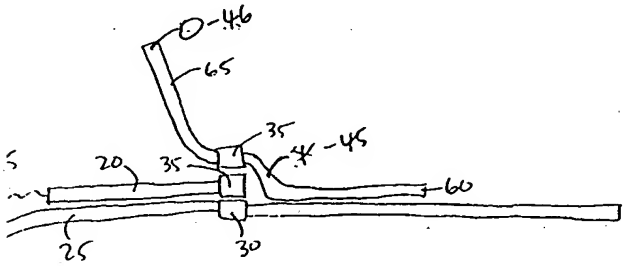

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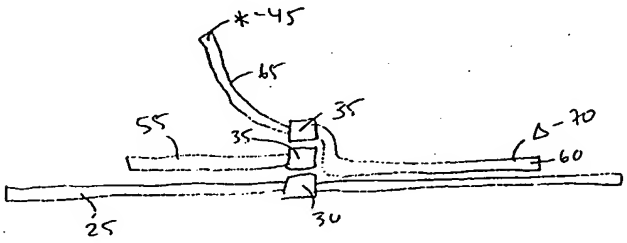
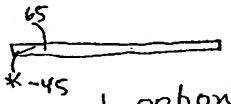


C

enzyme



optional remove uncleaved signal probe, add to array

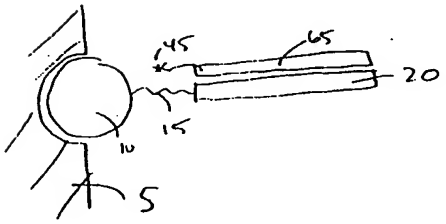
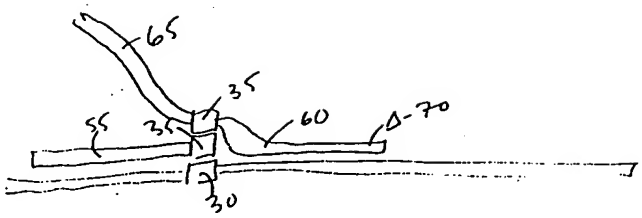


FIGURE 13



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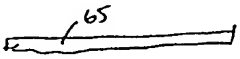
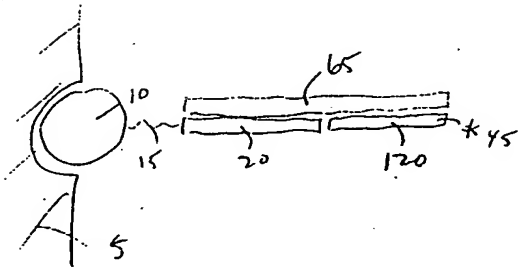


optional removal of unreacted primers, optional ligase

D



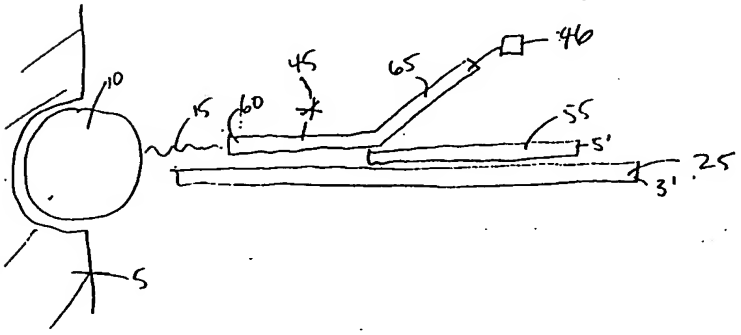


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FIGURE 13
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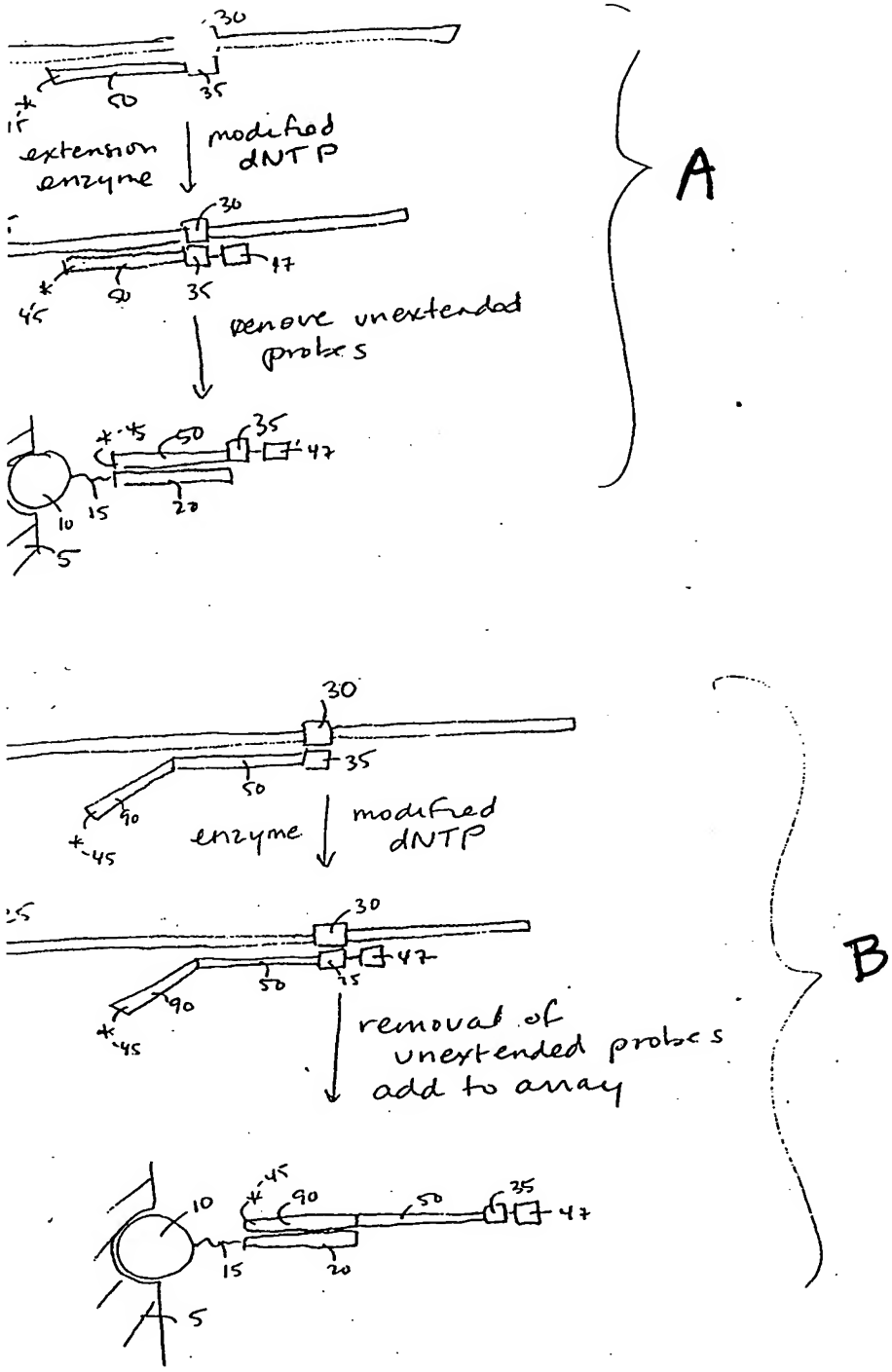
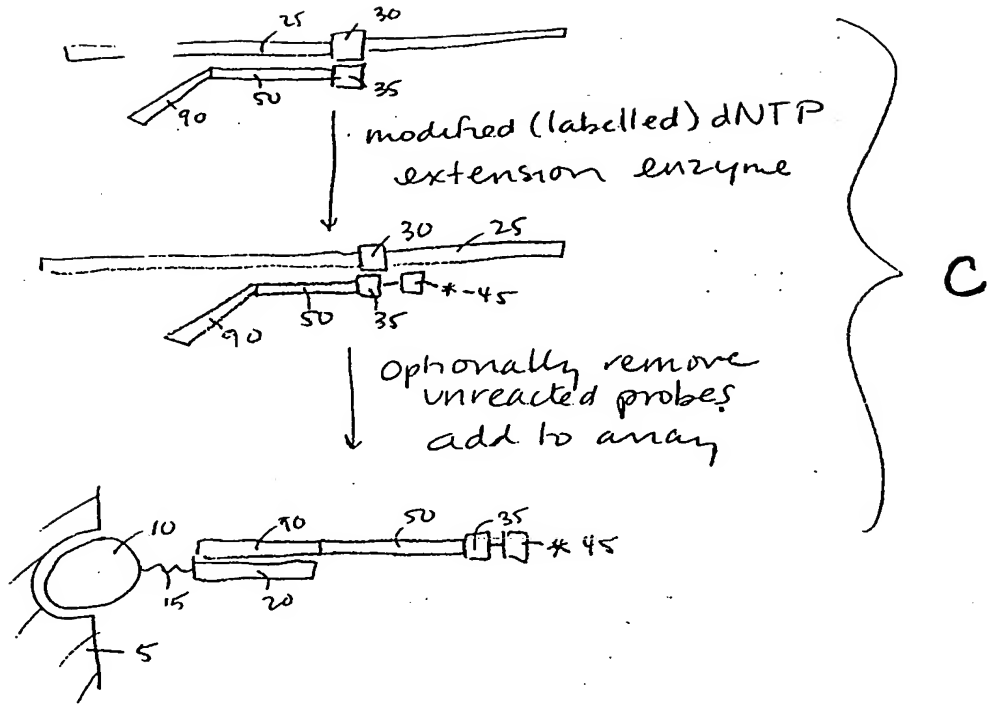


FIGURE 14



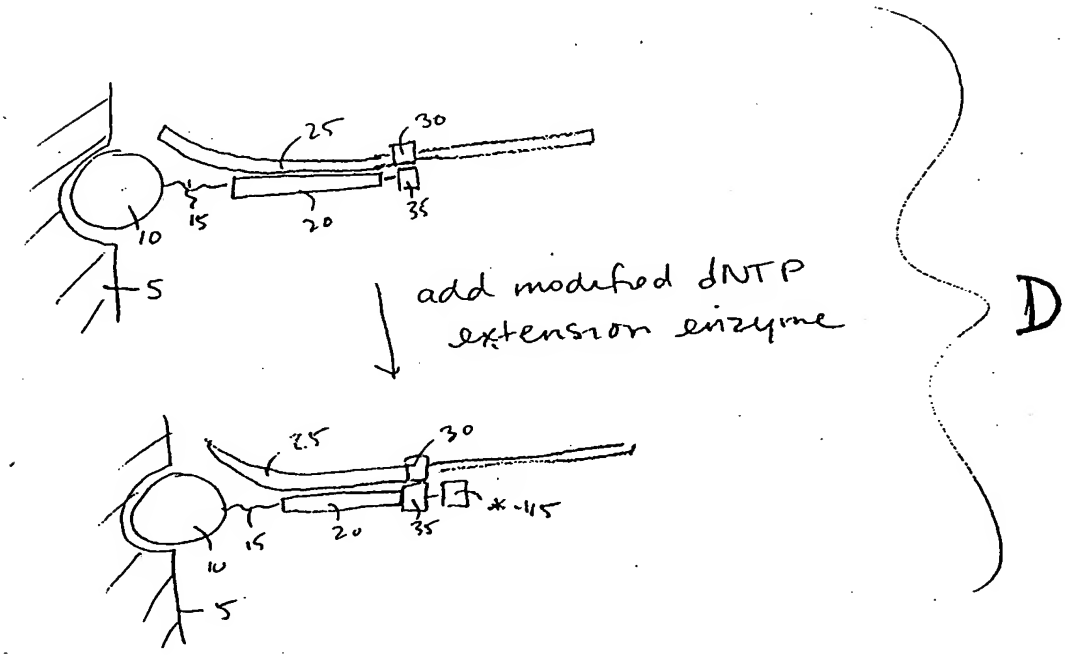


FIGURE 14 (continued)

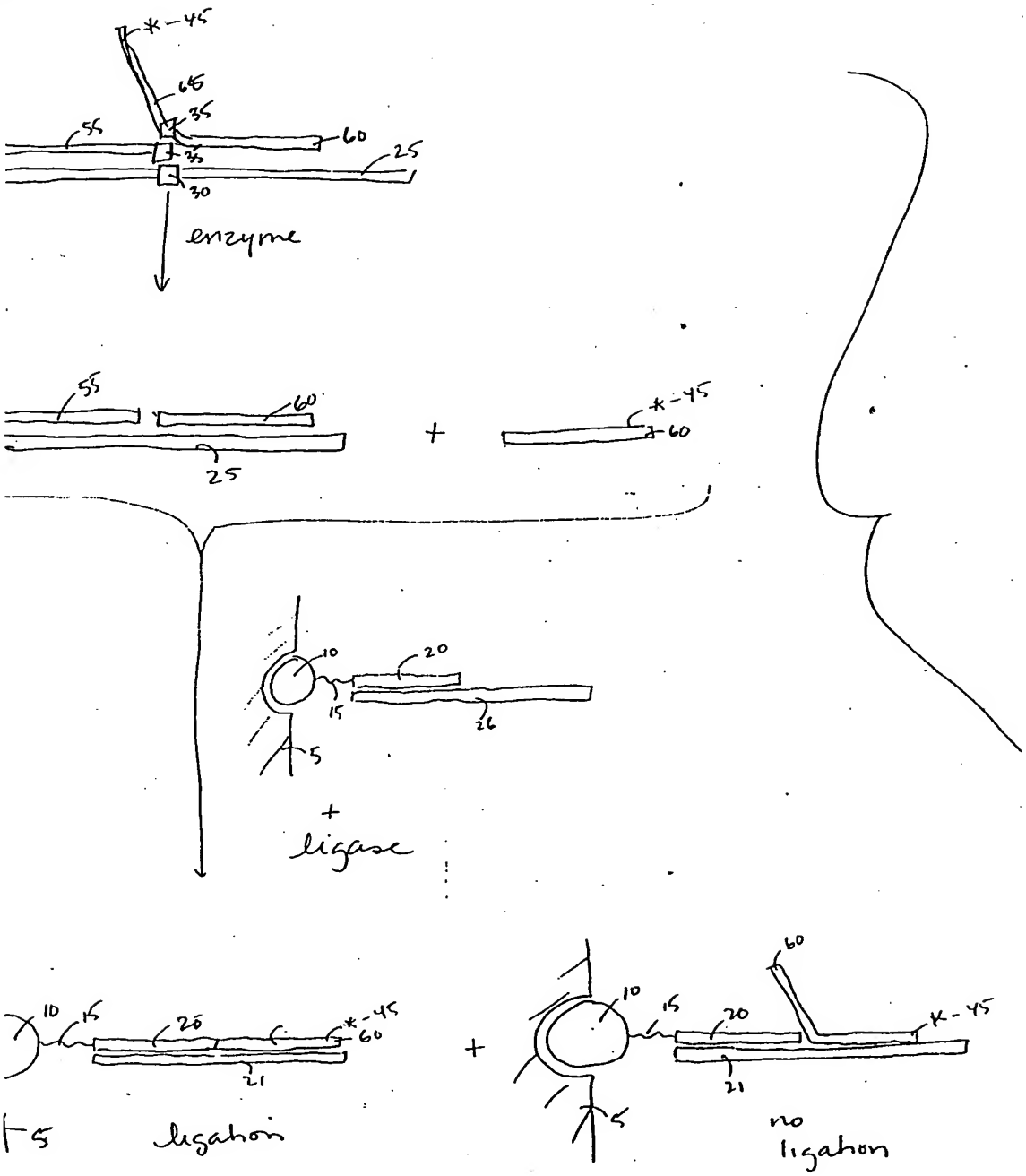


FIGURE 15A

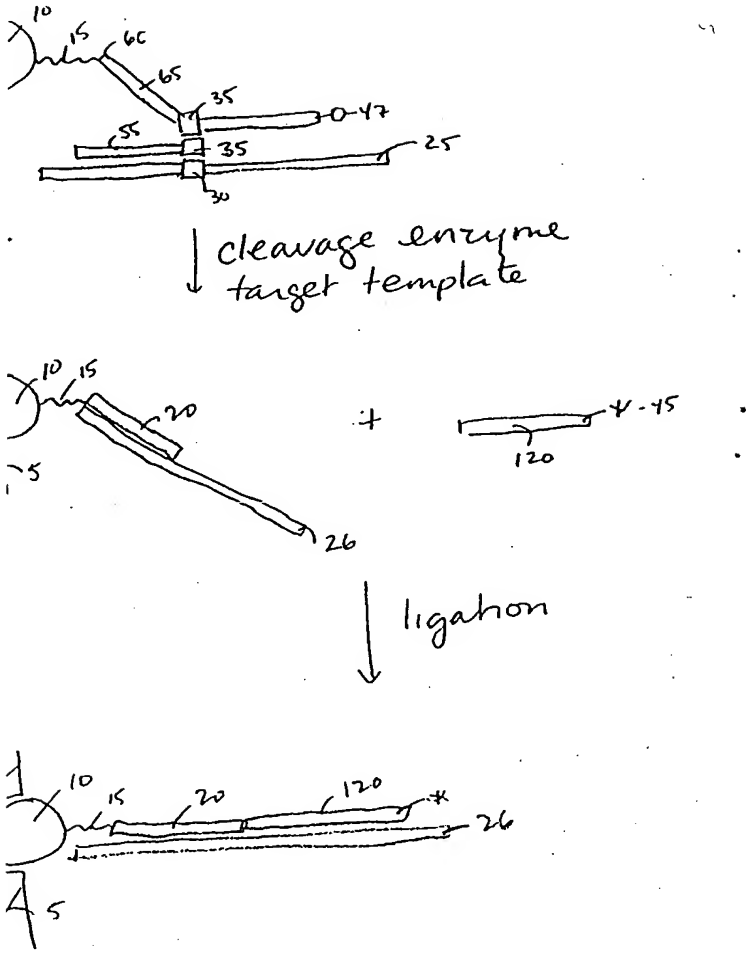


FIGURE 15B

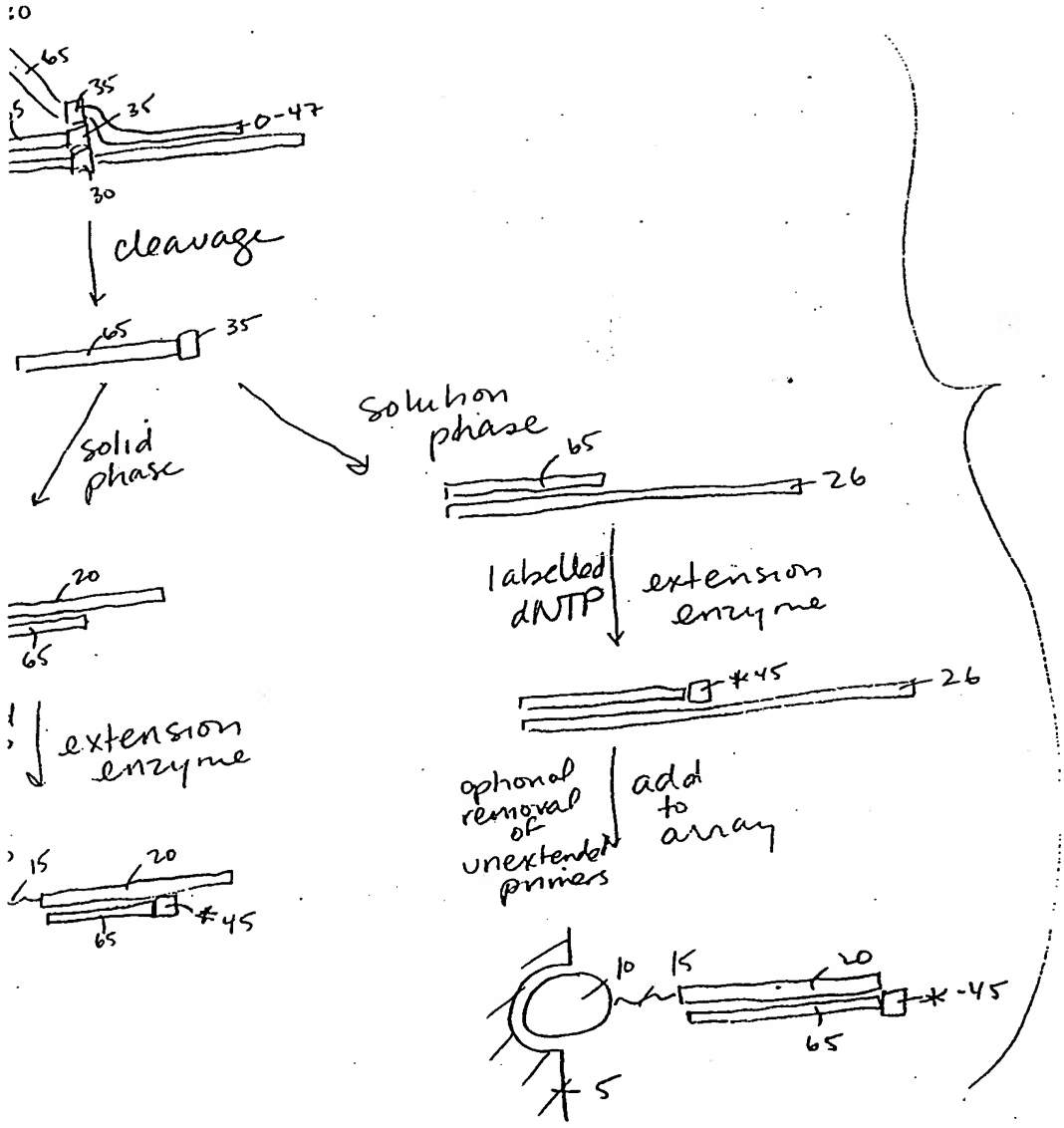


FIGURE 16A

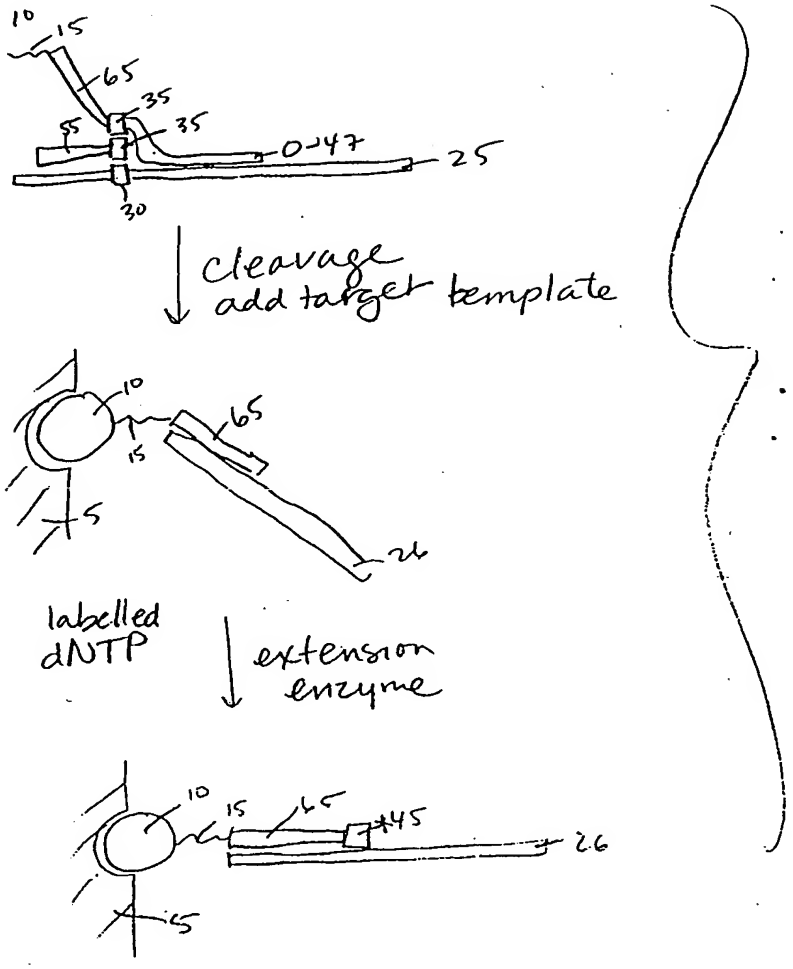
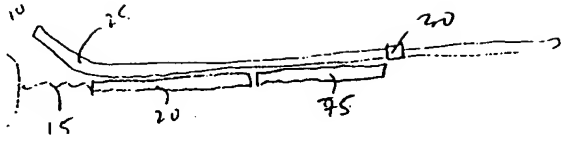
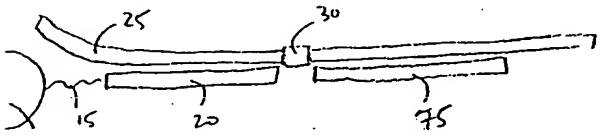


FIGURE 16B



A

FIGURE 17



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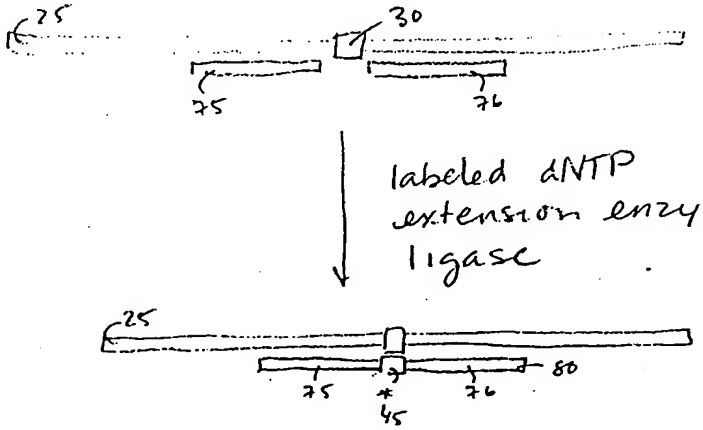

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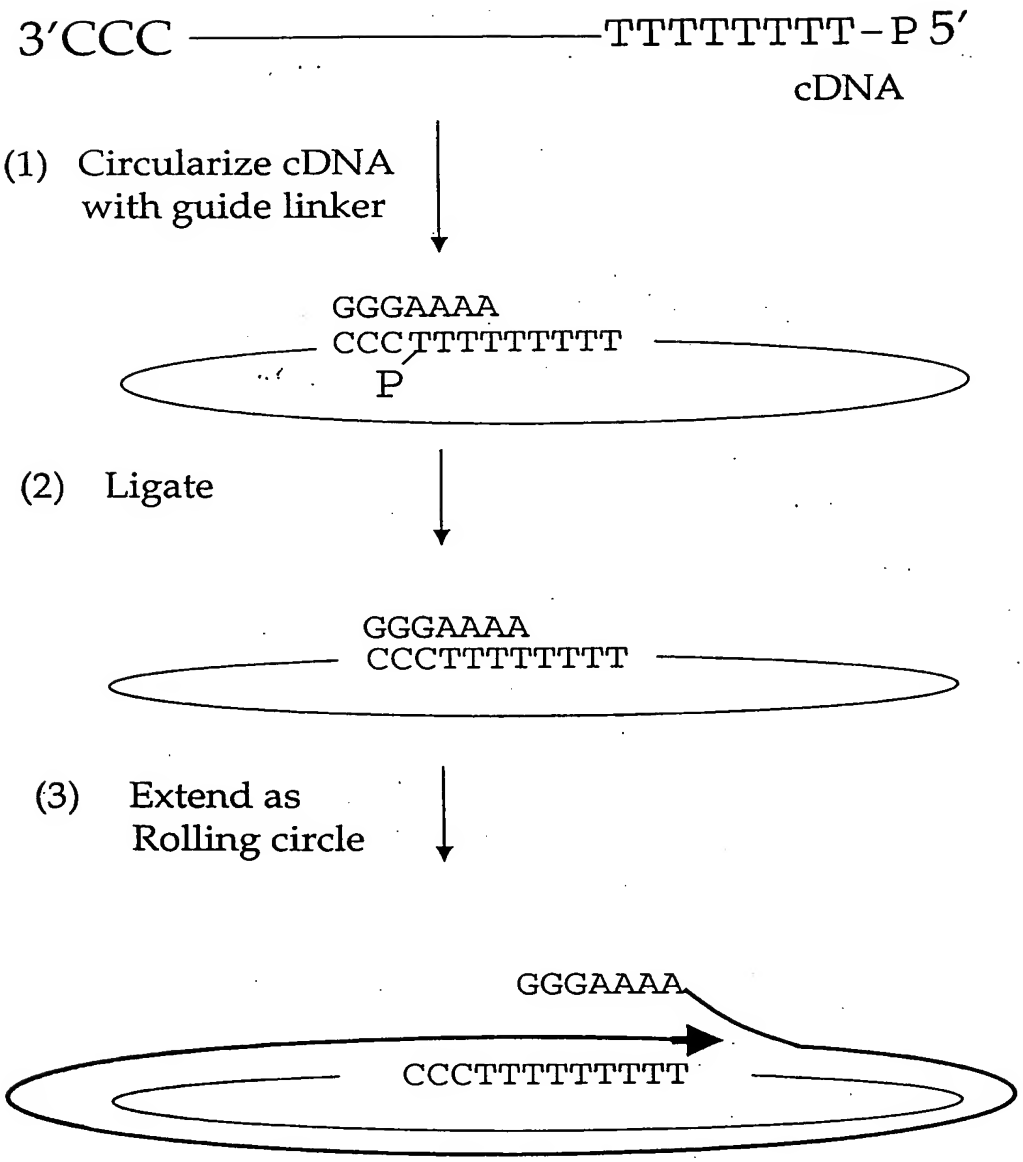


Figure 18

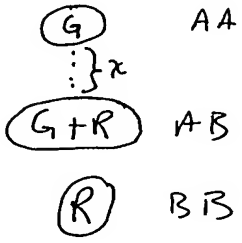
Single Labeled Probe

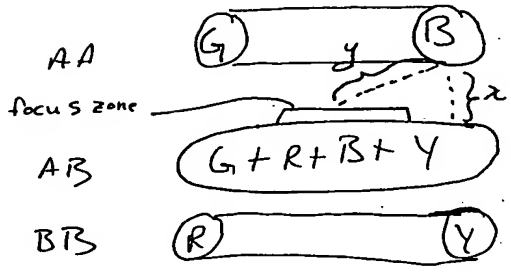
Genotype	Signal
AA	G/G
AB	G/R
BB	R/R

Multi-Labeled Probe

Genotype	Signal
AA	G, B / G, B
AB	G, B / R Y
BB	R, Y / R, Y

Signal Range





x = Single label distance
y = Multi label distance

Figure 19

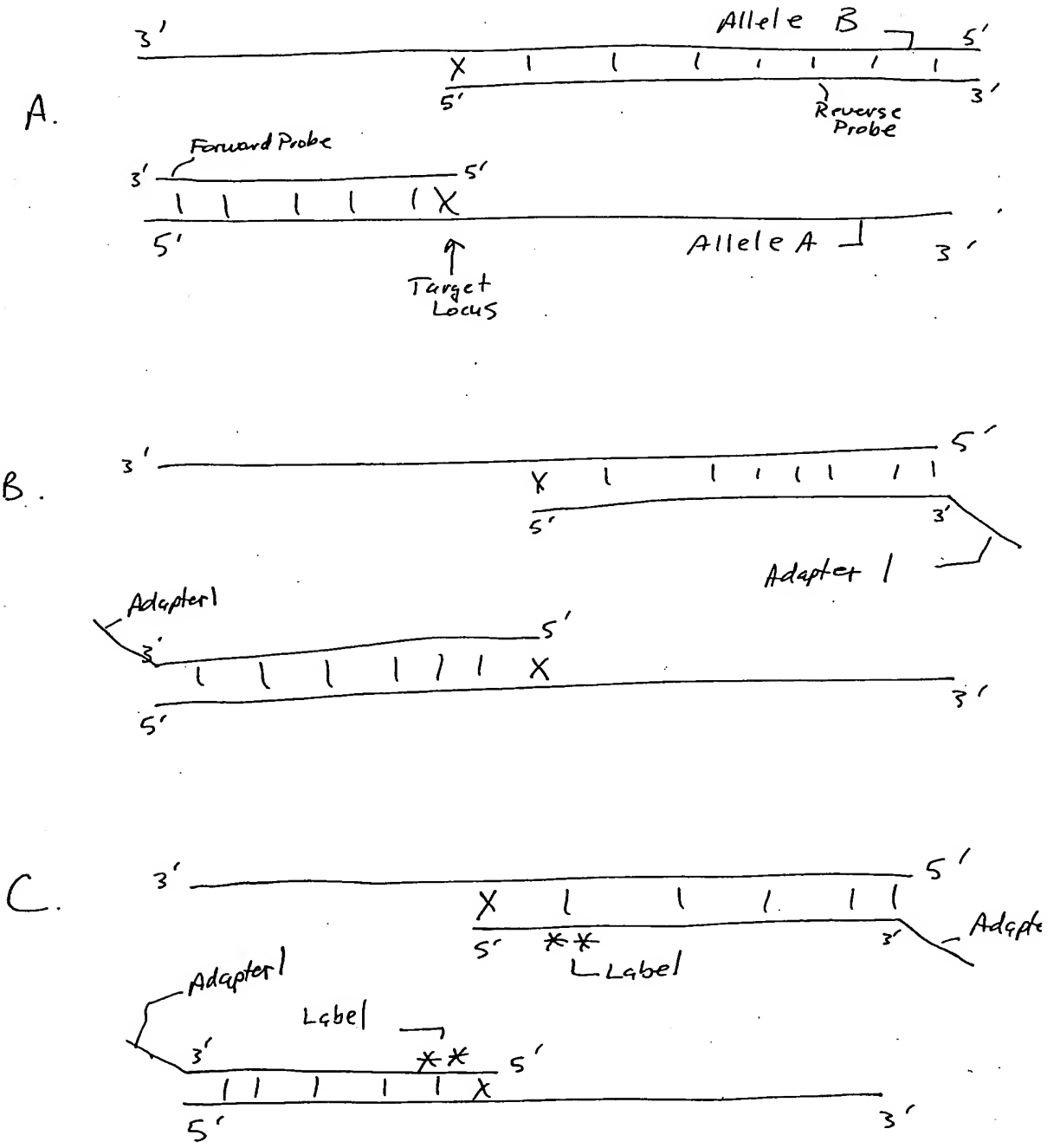


Figure 20

D.

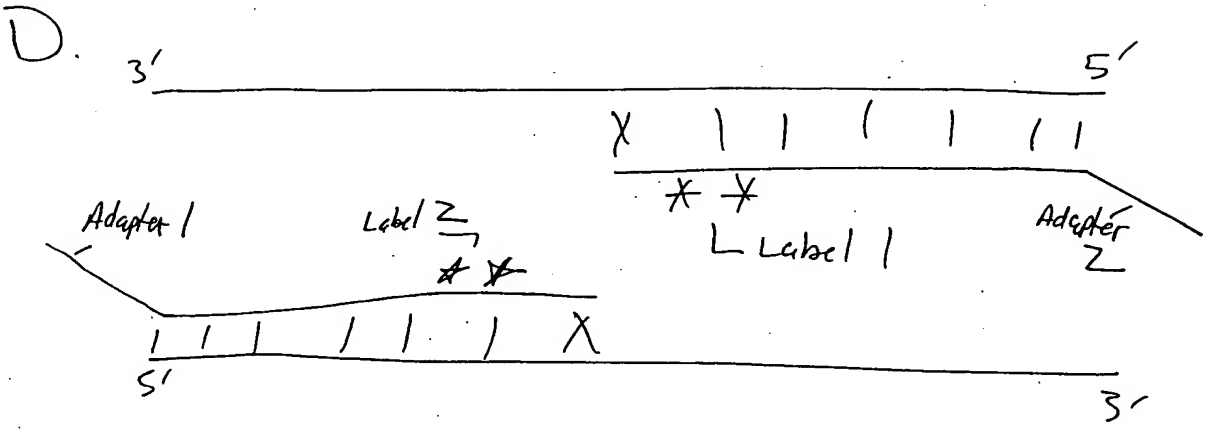


Figure 20 (continued)

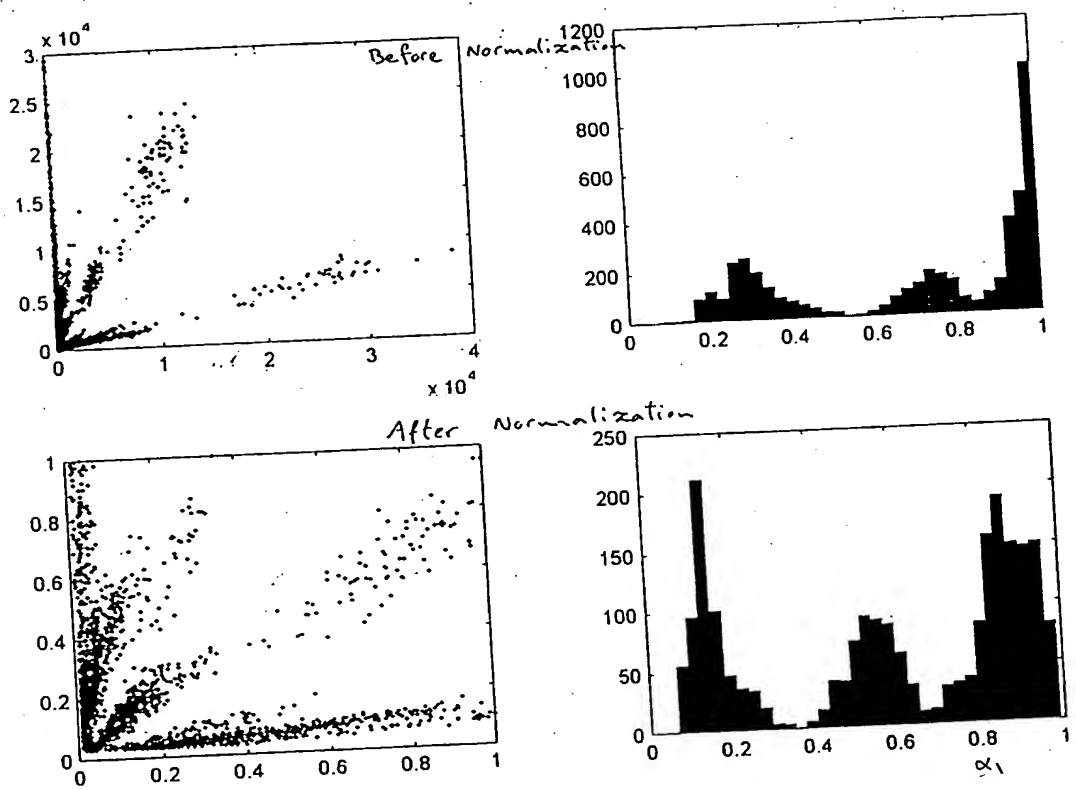


Figure 21

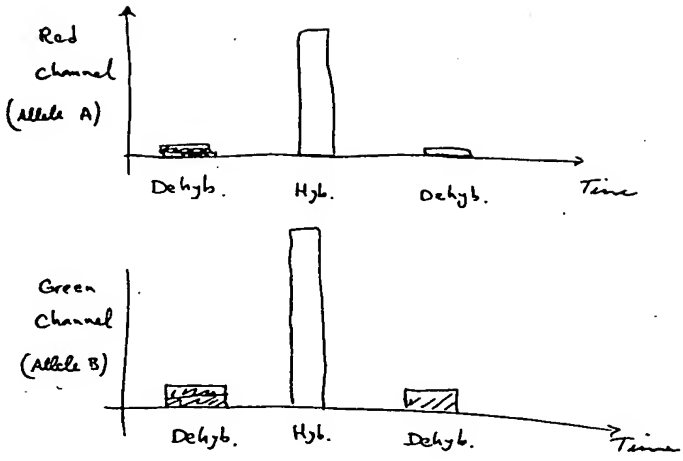


Fig.21 A

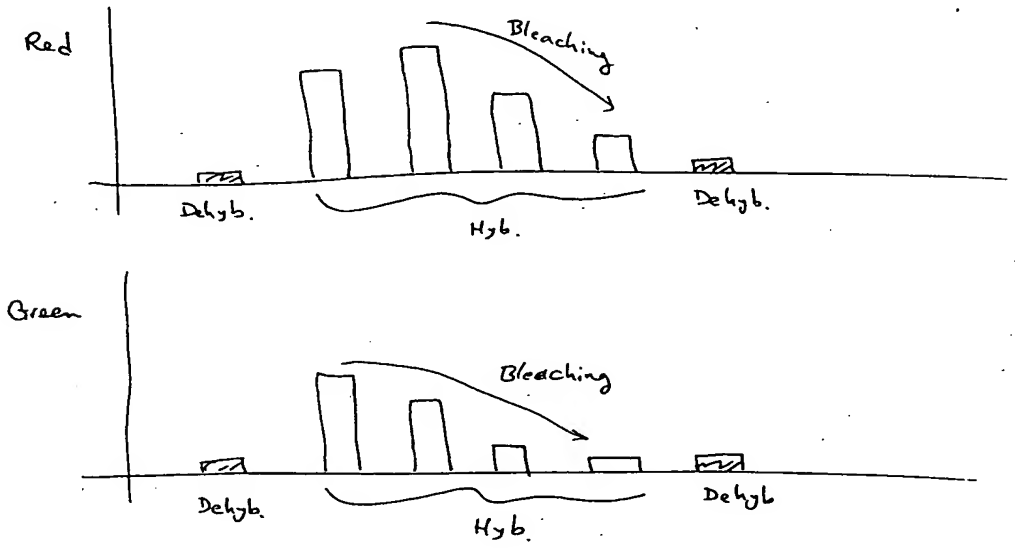


Fig.22 B

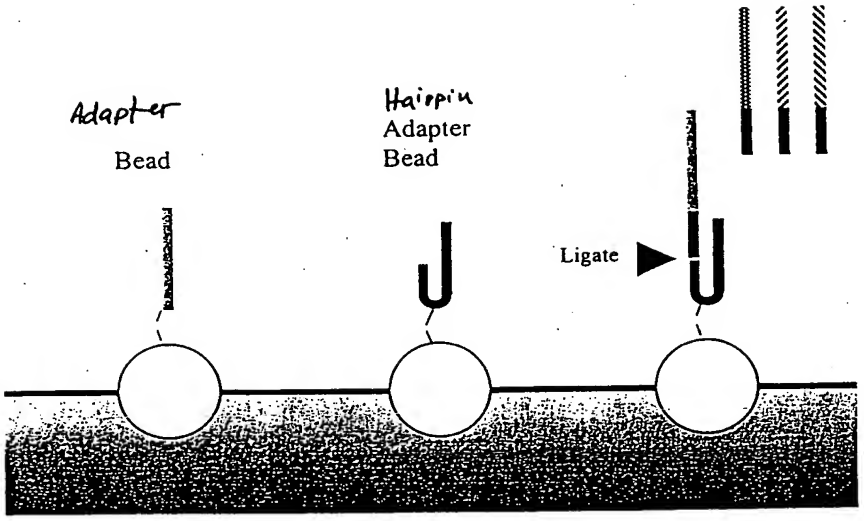
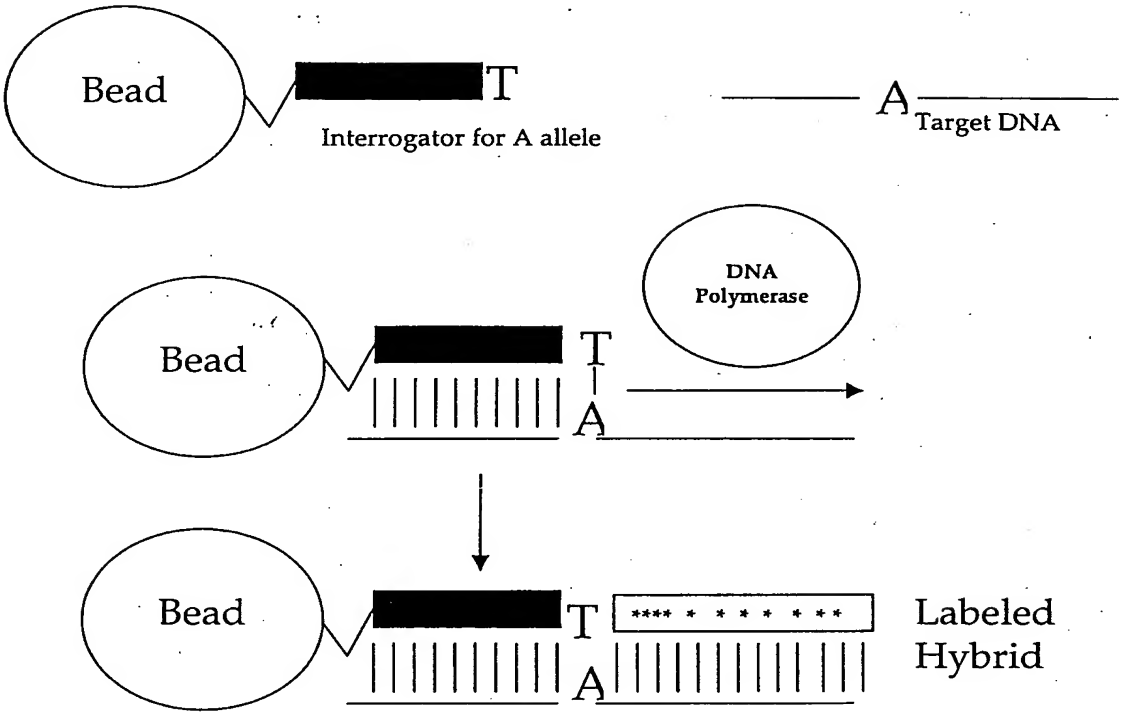


Figure 23

A. Match to SNP allele



B. Mismatch to SNP allele

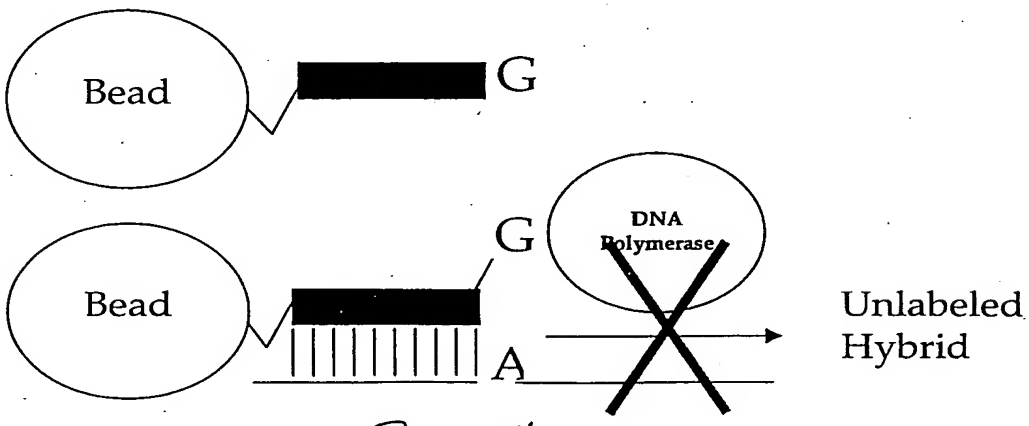
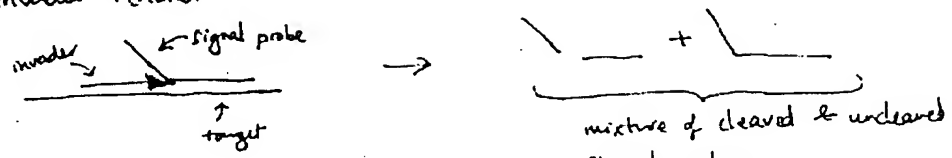


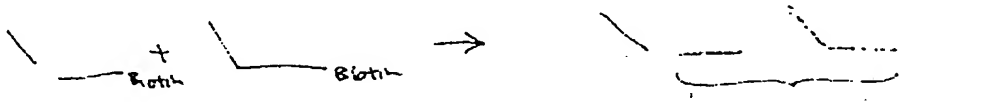
Figure 24

Invader - PCR

1) Invader reaction

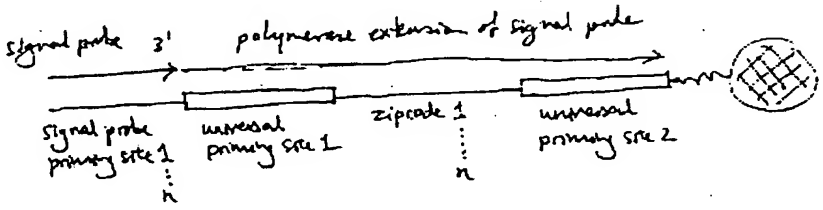


2) Removal of uncleaved signal probes



e.g. by capture on streptavidin beads
via 3'-biotin

3) Signal probe primes synthesis of amplicon target strand



4) PCR amplification

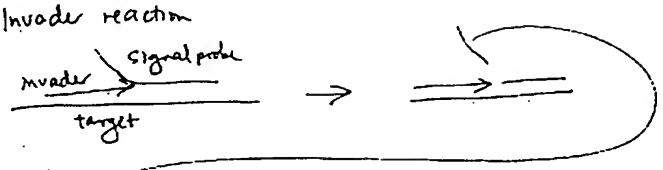
newly synthesized target strands are denatured from template & transferred to PCR reaction (universal primers, dNTPs, taq polymerase) for multiplex PCR. Universal primers are labelled e.g. with biotin.

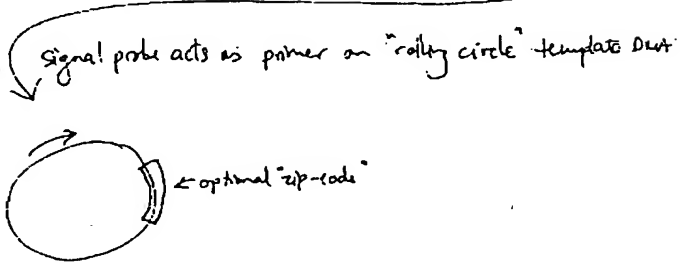
5) Array hybridization - PCR amplicons containing zipcodes are hybridized to array

Figure 25

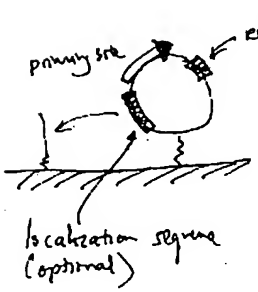
Invader - Rolling Circle

1) Invader reaction





Solid-phase version:



rolling circle template is tethered to surface e.g. to localized "features" in an array format, or to beads.

Rolling circle products can be localized e.g. by hybridization to adjacent probes
or recovered in liquid phase for hybridization to a detection array. e.g. by enzymatic cleavage

Figure 26